

Applicant : Firass Abi-Nassif et al.
Serial No. : 09/704,898
Filed : November 2, 2000
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Attorney's Docket No.: 12144-004001

AMENDMENTS TO THE DRAWINGS:

The attached replacement sheet of drawings includes changes to Fig. 4 and replaces the original sheet including Figs. 3 and 4.

Attachments following last page of this Amendment:

Replacement Sheet (1 page)

Annotated Sheet Showing Change(s) (1 page)

REMARKS

Comments of the applicant are preceded by related comments of the examiner in small, bold-faced type:

3. Claims 1, 2-4, 6-8, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peisa et al. (U.S. Patent No. 6,850,540 B1) in view of Patel et al. (U.S. Patent No. 6,865,185 B1).

In the claims 1, 26, Peisa et al. discloses scheduling data flows in accordance with the present invention is illustrated generally at 800... This selection may be performed once for each TTI (transmission time interval). Initially, several parameters are obtained for each logical channel. The QoS Class each logical channel may be obtained from the corresponding RAB (Radio Access Bearer) parameter (QoS Class, Guaranteed Rate..)(see figure 8, col. 18, lines 30-38); comprising:

- Controlling the order in which packets are transmitted based on the transmission rate (Guaranteed Rate) and the service class (QoS Class) of the packets (see figure 8, col. 1, lines 30-38) (see col. 3, lines 15-25);
- Transmitting packets corresponding to the received packets to recipients (UE) (see figure 2, col. 4, lines 20-45).

However, Peisa et al. is silent to disclosing associating each of the received data packets with one of a set of different service classes.

Patel et al. discloses inserting labels or tags in front of each data packet indicating the FEC which is based on the commonability of flow characteristics. Such labels or tags enable the enforcement of QoS treatments (see col. 3, lines 62-65); The system for queuing traffic in a wireless network includes receiving a stream of packets for transmission in the wireless network... Each packet is queued in an assigned virtual group for transmission in the wireless network (see abstract); comprising:

- Receiving data packets at a communication node; associating each of the received data packets with one of a set of different service classes; transmitting packets corresponding to the received packets to recipients (see col. 3, lines 62-65, abstract).

Both Peisa and Patel disclose the different service class of the packets. Patel recognizes associating each of the received data packets with one of a set of different service classes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Peisa with the teaching of Patel to associate each of the received data packets with one of a set of different service classes in order to control transmitting packet to the recipient based on QoS, transmission rate. Therefore, the combined system would have been reduced the delay time in the processing packets.

10. Claims 5, 9, 10, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Peisa - Patel) in view of Tiedemann, Jr. et al. (U.S. Patent No. 6,567,420 B1).

15. Claims 13, 14-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Peisa - Patel) in view of Jalali. et al. (Data throughput of CDMA-HDR).

Peisa discloses techniques for determining how much data to transmit on each transport channel per transmission time interval (TTI). (Peisa, col. 7, lines 25-36). In Peisa, what is being

determined based on the guaranteed rate and quality of service class associated with each transport channel is the *allocation of bandwidth* of the underlying physical channel between the transport channels per TTI. (Peisa, col. 7, line 37 – col. 8, line 2; col. 18, line 29 – col. 19, line 17). Peisa does not disclose or suggest “*controlling the order in which packets are transmitted* based on the transmission rate and the service class of the packets” as recited in both claims 1 and 26.

Patel does not add the missing features, being silent on controlling the order in which packets are transmitted based on the transmission rate and the service class of the packets.

Neither Peisa nor Patel describe or would have made obvious “controlling the order in which packets are transmitted,” much less on the basis of “the transmission rate and the service class of the packets.”

The dependent claims are patentable for at least the same reasons given with respect to the independent claims from which they depend.

26. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peisa et al. (U.S. Patent No. 6,850,540 B1) in view of Tiedemann, Jr. et al. (U.S. Patent No. 6,567,420 B1).

27. In the claim 27, Peisa et al. discloses scheduling data flows in accordance with the present invention is illustrated generally at 800.. This selection may be performed once for each TTI (transmission time interval). Initially, several parameters are obtained for each logical channel. The QoS Class each logical channel may be obtained from the corresponding RAB (Radio Access Bearer) parameter (QoS Class, Guaranteed Rate..)(see figure 8, col. 18, lines 30-38); comprising:

Scheduling packets for transmission among the different classes based on the received values (see figure 8, col. 18, lines 30-38) (see col. 3, lines 15-25);

Transmitting packets corresponding to the received packets to recipients (UE) (see figure 2, col. 4, lines 20-45).

However, Peisa et al. is silent to disclosing receiving from network operator values representing minimum average forwarding rate percentage for each of more than one distinct class of service associated with transmission packets from a radio node of a network to recipients.

Tiedemann, et al. discloses receiving from network operator (base station) (see col. 2, lines 19-28, the remote unit chose to transmit the data rate lower than the maximum rate in order to conserve remote unit power and spectral resources, see col. 3, lines 21-25, the access request message specifies data rate. In response, the base station may give permission for the remote unit to transmit at the desired data rate, may give the remote unit permission to transmit a lower data rate) values representing minimum average forwarding rate percentage for each of more than one distinct class of service associated with transmission packets from a radio node (remote unit) of a network to recipients (see col. 2, lines 19-28, col. 3, lines 21-25, col. 7, lines 1-5, the determination of the desired data rate may take into consideration the amount of data queued for transmission, the available transmission power which can dedicated to higher data rates, the class service requested by the user).

Both Peisa and Tiedemann disclose the different service class of the packets. Tiedemann recognizes receiving from network operator values representing minimum average forwarding rate percentage for each of more than one distinct class of service associated with transmission packets from a radio node of a network to recipients. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Peisa with the teaching of Tiedemann to receive from network operator values representing minimum average forwarding rate percentage for each of more than one distinct class of service associated with transmission packets from a radio node of a network to recipients in order to control transmitting packet to the recipient based on QoS, transmission rate. Therefore, the combined system would have been reduced the delay time in the processing packets.

The applicant respectfully disagrees.

Claim 27 explicitly recites that the minimum average forwarding rate percentages are for classes of service associated with transmission of packets “from a radio node of a network to recipients,” namely what is sometimes referred to as forward airlink transmission.

In the cited portions of Tiedemann, by contrast, what is being regulated is the data rate at which remote units transmit data to a base station over a *reverse* link, not a forward link. Tiedemann neither describes nor would have made obvious “receiving ... values representing minimum average *forwarding* rate percentages for each of more than one distinct classes of service associated with *transmission of packets from a radio node of a network to recipients*, as in claim 27.

A replacement sheet for FIG. 4 being provided with this response reflects corrections of the numeric values along the y-axis to reflect 300 kbps, 600 kbps, and 900 kbps, the numeric values that were on the original drawings filed with the application.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

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Enclosed is a \$100.00 check for excess claim fees. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,



Date: 6/23/05

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